

# Fig. 1

## Example of STIL(1)

### Signals:

```
Signals {  
    Signal[0] InOut;  
    Signal[1] InOut;  
    Signal[2] InOut;  
}
```

```
SignalGroups {  
    signal = 'Signal[0..2]';  
}
```

## Fig. 2

### Example of STIL(2)

```

Timing:
Timing T1
{
    WaveformTable wft1
    {
        Period '1us';
        Waveforms
        {
            Signal[0] {01 { '400ns' D/U; }}
            Signal[1] {01 { '400ns' D/U; '500ns' D; }}
            Signal[2] {01 { '200ns' D/U; '600ns' U/D; }}
            Signal[2] {01 { '200ns' D/U; }}
            Signal[2] {23 { '100ns' D/U; '400ns' D; }}
            Signal[2] {23 { '100ns' D/U; '400ns' D; }}
        } // end of Waveforms block
    } // End of WaveformTable wft1
} // End of Timing block

```

## Fig. 3

### Example of STIL(3)

#### Pattern:

Pattern pat1 {

W wft1;

V { signal =011; } // Note: signal = Signal[0] +  
V { signal =020; } // Signal[1] + Signal[2]  
V { signal =111; }  
V { signal =103; }  
V { signal =132; }  
V { signal =000; }  
V { signal =003; }

}

## Fig. 4

### Example of STIL(4)

**Flow:**

```
PatternBurst pb1 {  
  PatList {  
    pat1;  
  } // end of PatList  
} // end of PatternBurst  
  
PatternExec {  
  Timing T1;  
  PatternBurst pb1;  
} // end of PatternExec
```

## Fig. 5

### Example of TDL

#### Timing and Pattern:

```
SIGNAL signal_1;  
signal_1.drekind( 0, NRZ);  
signal_1.wavekind( 1, RZO);  
signal_1.timing( 1, T1, 400.0nS);  
signal_1.timing( 1, T2, 500.0nS);  
signal_1.wavekind( 2, XOR);  
signal_1.timing( 2, T3, 0.0nS);  
signal_1.timing( 2, T1, 200.0nS);  
signal_1.timing( 2, T2, 600.0nS);  
signal_1.wavekind( 3, NRZ);  
signal_1.wavekind( 4, NRZ);  
signal_1.timing( 4, STBL, 0.0nS);  
signal_1.timing( 4, DREL, 0.0nS);
```

## Fig. 6A

### Conversion Basics

- Vector-based to vector-based conversion

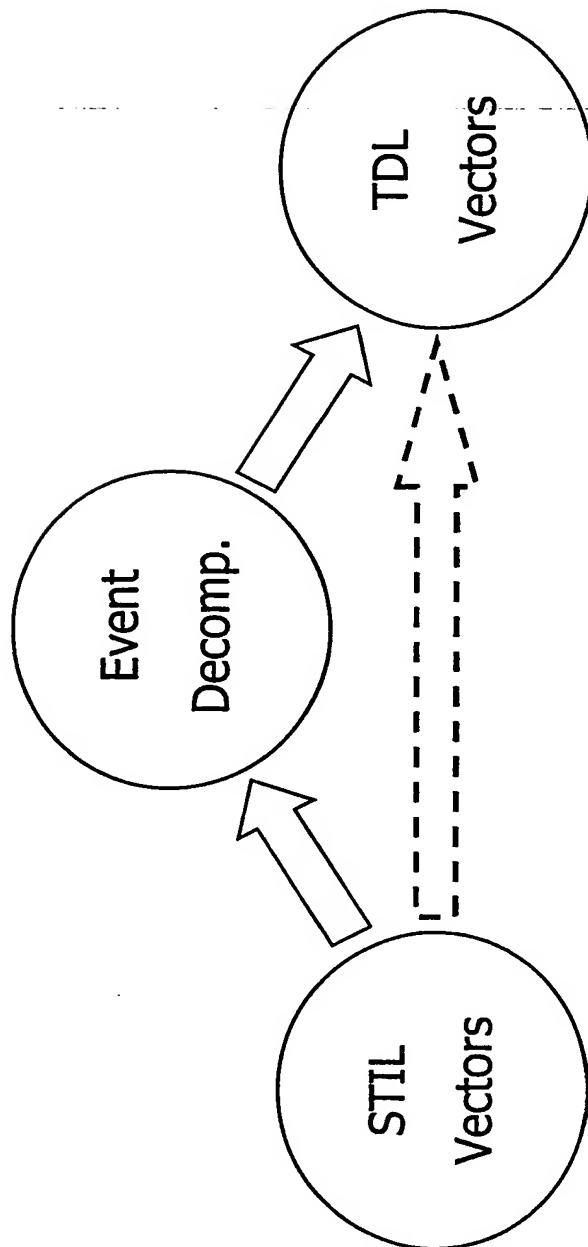
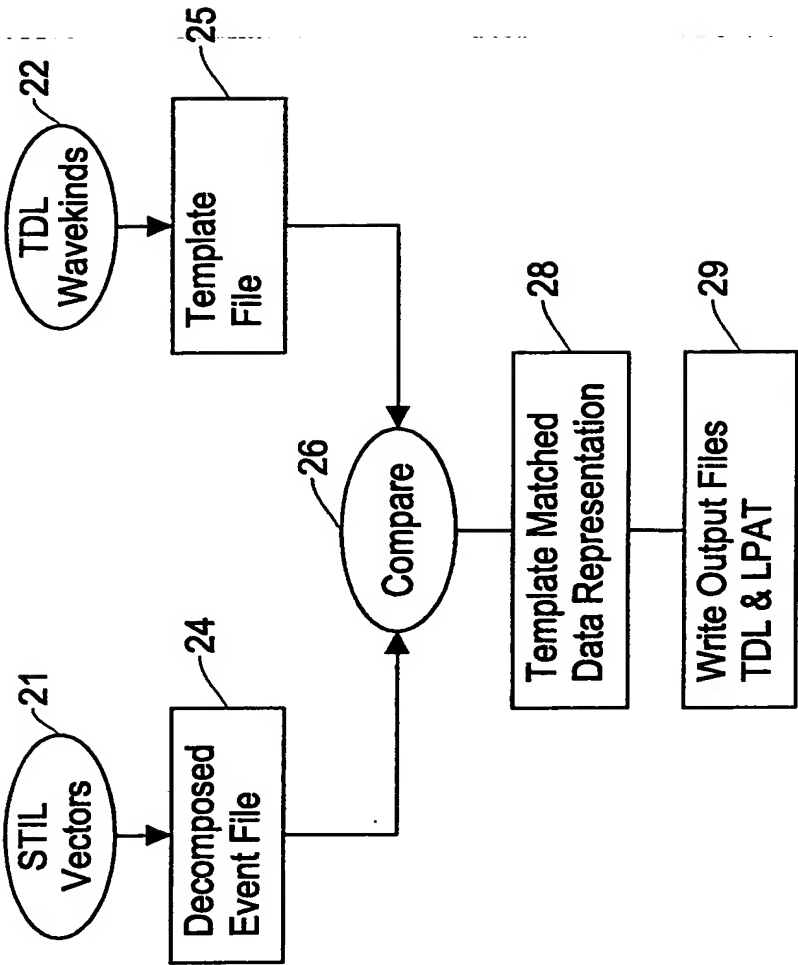


Fig. 6B

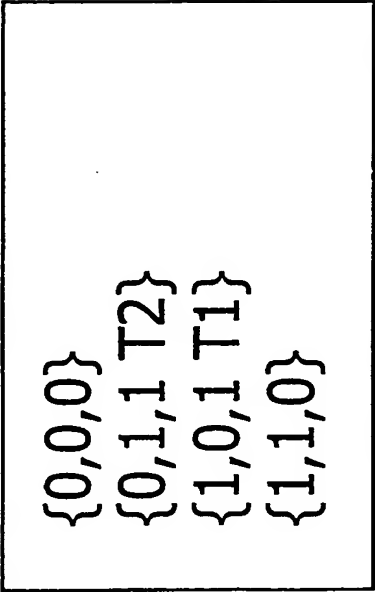


## Fig. 7

### Template Matching

- 01 {'400ns' D/U;} => NRZ; T1 = 400ns; T2 = 400ns

- Template

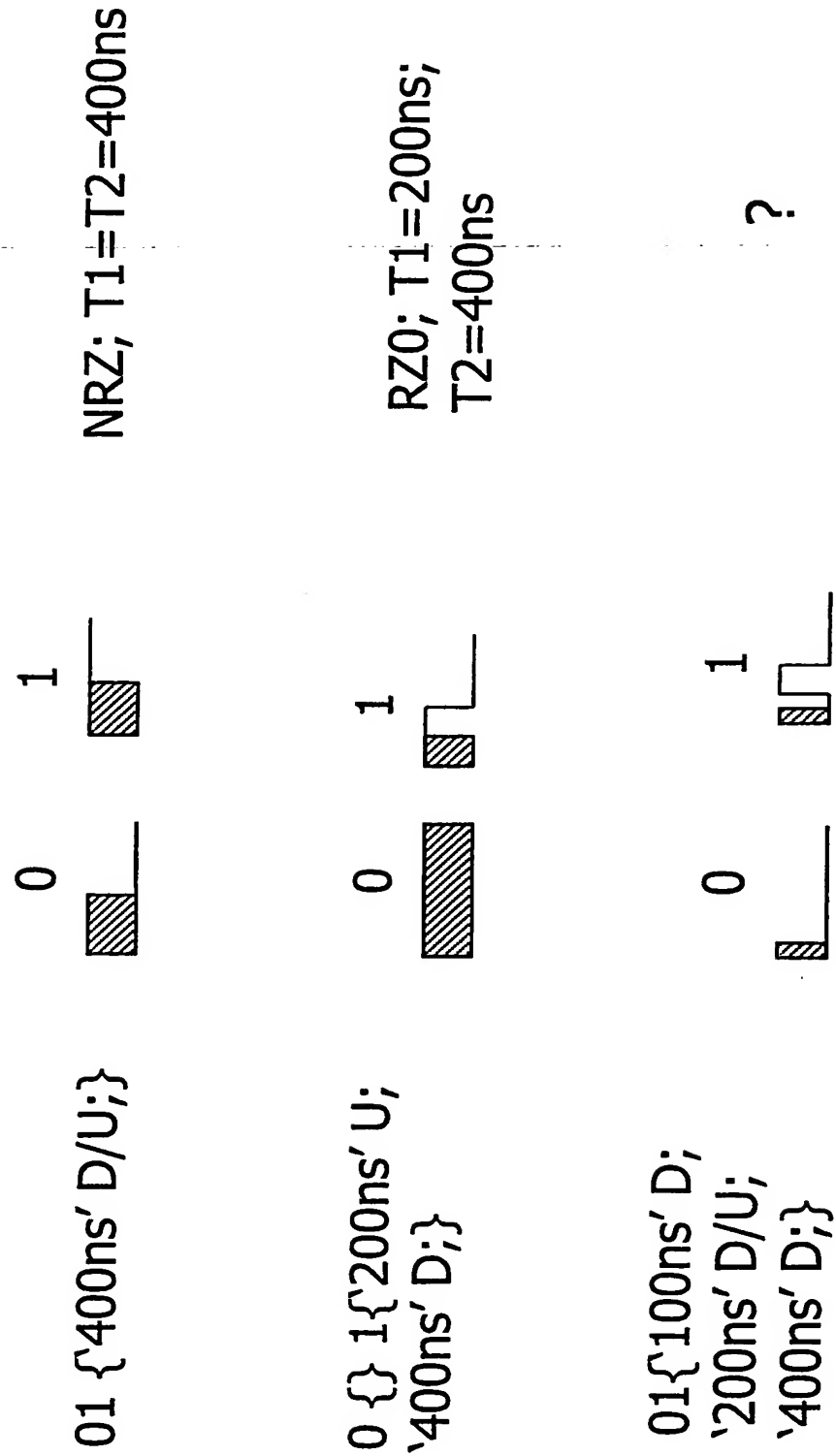


{0,0,0}  
{0,1,1 T2}  
{1,0,1 T1}  
{1,1,0}



# Fig. 8

## Wavekind Matching (1)




## Fig. 9

### Wavekind Matching (2)

0 

NRZ; RZO...


1 

XOR; T3=100ns; T1=200ns; T2=400ns

- Analyze timing block


- What if no waveform can end in 'U' state?

0 

1 

⇒

0 

1 

RZ0; T1=200ns;  
T2=400ns

Fig. 10B

Number of Edges	Start Value	
	0	1
0	T	T
1	F	T
2	T	F
3	F	T
4	F	F

23{ '100ns' D; '200ns' D/U; '400ns' D; }

Fig. 10A

Number of Edges	Start Value	
	0	1
0	T	T
1	F	T
2	T	F
3	F	F
4	F	F

0{ '200ns' U; '400ns' D; }

Fig. 11

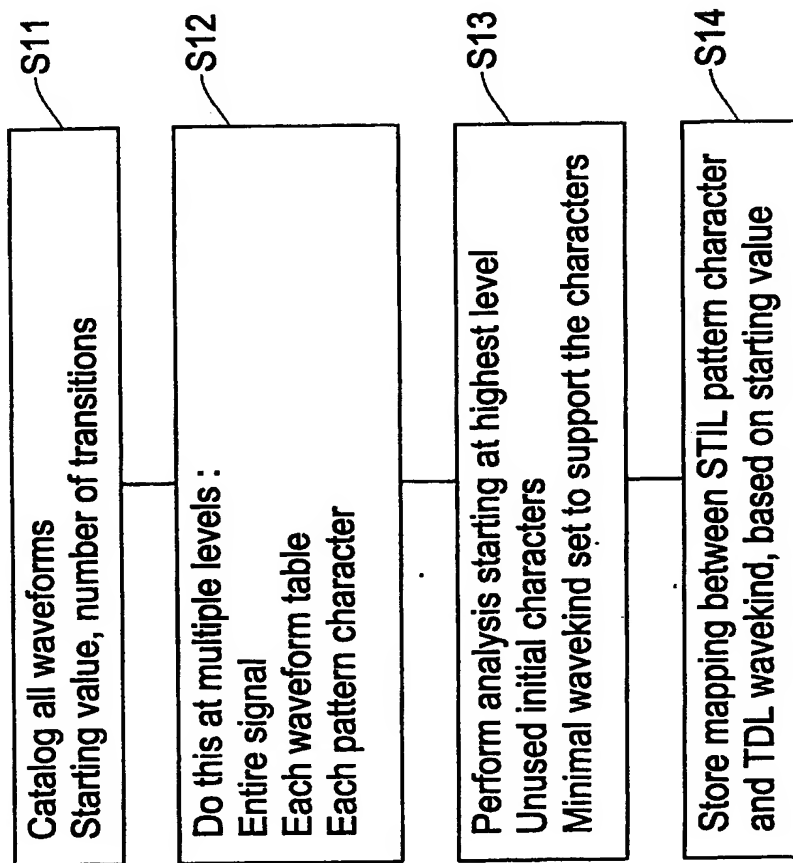
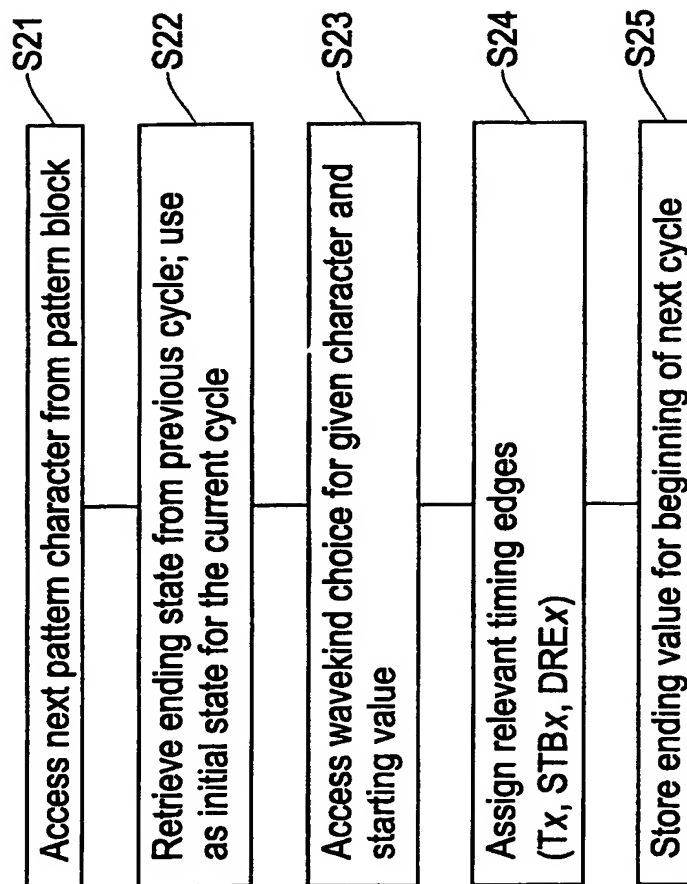


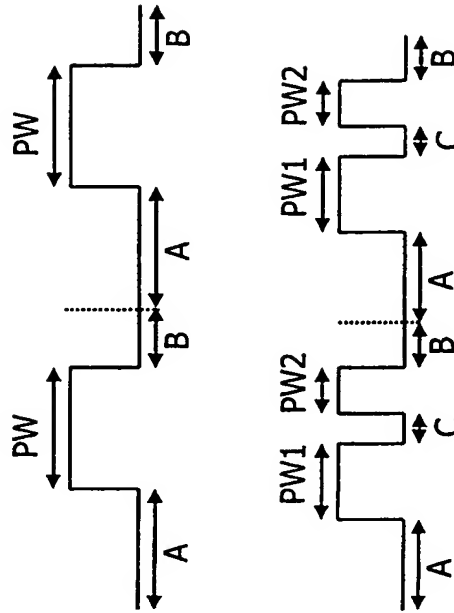
Fig. 12



## Fig. 13

### Multi-Clock (MCLK)

- MCLK
  - Find repetitive basic timing unit in STIL pattern char
  - Can be based on single- or double-pulse waveform
- Determine number of repetitions and factor into Rate



**Fig. 14**  
**Pin Mux**

